

## Conference Abstract

# Building Next-Generation Collections: Natural History Specimens, Just One Click Away!

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## Abstract

Digitisation has made significant advances in many natural history collections since the 1980s. The Vertebrate Zoology Collections team of the Canadian Museum of Nature (CMNVZC; ca. 1,250,000 catalogued specimens) has the ambition to go fully digital with our physical objects and associated data. Organising CMNVZC data electronically (primary digitisation) through computerisation for collection management purposes was initiated in 1972 and systematically implemented since the 1980s. This databasing process involved several stages, each with its own objectives and challenges. It resulted in ca. 100% of the CMNVZC being now digitised and core specimen data being retrievable from the Web (e.g., GBIF, and VertNet). Digitising requires regular updates to reflect the changing needs of the collections-based research community, and to capitalise on new opportunities that arise with the advances in technology. In this digital age, improving collections accessibility and usability through realistic and sustainable digitisation, while avoiding the downside of information overload, remains the most pressing challenge.

Increasing CMNVZC accessibility necessitates further consolidation and information standardisation of various types (e.g. collecting data) to be retrieved from several sources (e.g., field notes, original data sheets, and maps). Optimising collections usability can be achieved by adding value to existing records (secondary digitisation) by means of additional information as mentioned above, georeferencing, as well as 2D and 3D imaging. Virtual sharing of 3D specimen images allows for remote examination of specimens usually inaccessible through loans, such as type and rare specimens, and the possibility for

morphometric analyses. Digital imaging of the vertebrate collection, however, represents a major challenge given the complexity and variation of shapes and sizes among specimens. Limitations of current 3D surface imaging technology, none of which have been specifically designed for natural history specimens, hamper CMNVZC imaging workflows. Digital tools are key to the success of increasing usability of natural history collections and play an important role in preserving information. Digitisation activities should endeavour to improve online access of physical objects and their full array of data with optimized usability.

## **Keywords**

Digitisation, Canadian Museum of Nature, collection usability, vertebrates

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## **Conflicts of interest**

The authors have no conflict of interest to declare.